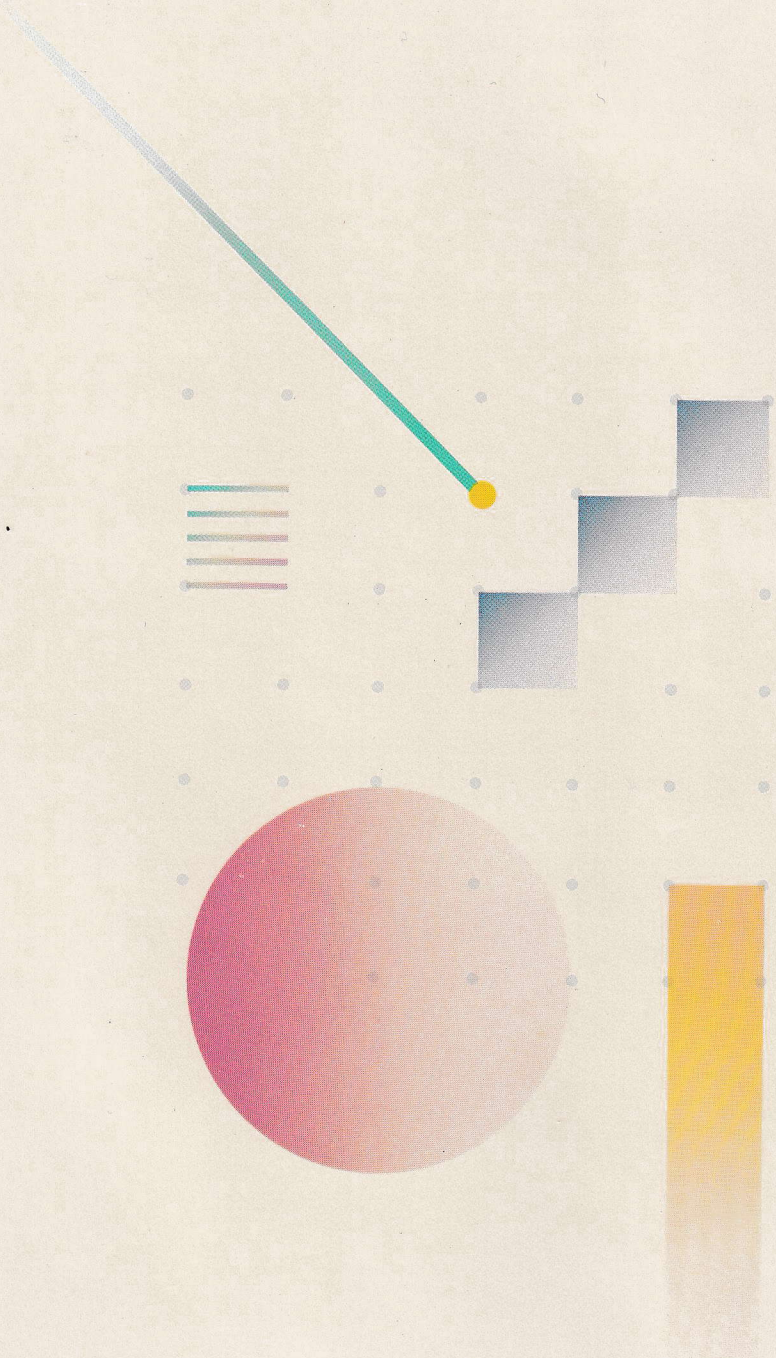
Lisa

Lisa. It works the way you do.



File/Print Edit Type Style Page Layout Format Graph Customize
Bar
Line
Scatter
Pie
Domestic Sales
Value:
Actual Sales vs. Quota
Qtr1 Qtr2 Qtr3 Qtr4
Quarter
MORANDUM
Managers
es were 9% above quota. It
that! As the figures below
Sales by Region
(Sales in 000's)
1st Qtr 2nd Qtr 3rd Qtr 4th Qtr
Northeast Total $ 565 $ 5,846 $ 5,849 $ 2,546
Southeast Total 235 254 251 222
Northeast Total
Southeast Total
Midwest Total
Mountain Total
Domestic Total 1748 7075 7199 4146
Preferences
Wastebasket
Clipboard
Lisa

This is Lisa at work. You use the system in the same spontaneous way you handle office work at your desk.

You control the entire system instinctively with a clever device called a mouse. Use it to point to the graphics and words on the screen. When you select what you want, Lisa responds instantly.

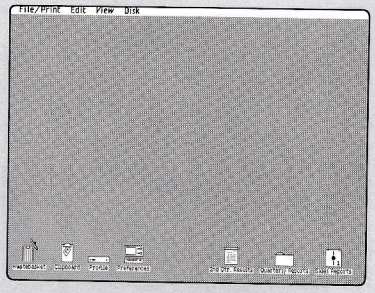
The system lets you work with different kinds of business applications and information simultaneously (shown here are LisaGraph, LisaCalc, and LisaWrite). The system also lets you move information between documents, cutting it from one and pasting it into another. You do it all with just a few moves of the mouse.

You can do more by moving the graphic symbols themselves. To store a document, for example, use the mouse to move the document symbol onto a folder symbol. To throw out a document, move its symbol onto the wastebasket. The combinations are instinctive and fast.

Your eye, your hand, and your natural way of doing things. Lisa follows them all. That makes Lisa the one personal system you already know how to use.

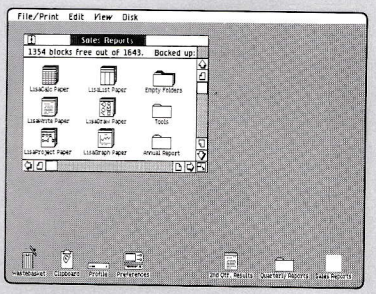
When you use the Lisa system, you work with a remarkable combination of features that no conventional personal computer has. Because they work together so naturally, however, you may not notice them all. What you certainly will notice is the system's simplicity and power.

The Desktop Manager

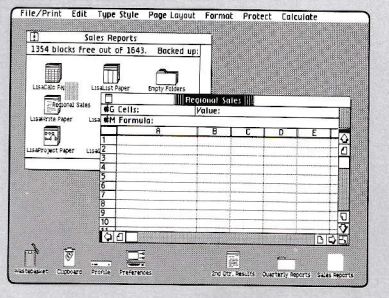


1. At the heart of the system, the Desktop Manager automatically coordinates all operations. It organizes the system's functions with these graphic symbols and, at the top of the screen, the menu bar.

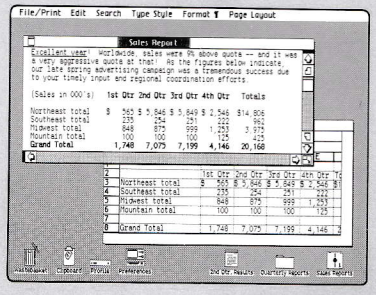
Using the mouse and the symbols, you can select any file folder stored on disk, select any application, throw out old information, or cut material from one document and paste it into another.



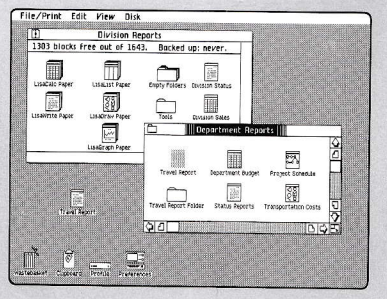
2. With Lisa, you literally see what's saved on any disk. Select a disk symbol with the mouse and a "window" expands to show the disk's contents. Selecting these newly revealed symbols, in turn, lets you start new work, revise work in progress, or put documents in file folders.



3. The most natural way to work with figures is to find a pad of paper, tear off a sheet, put it on your desk, and begin. The Desktop Manager lets you use Lisa the same natural way. Select the LisaCalc paper symbol and a single sheet is automatically detached. Prepare the sheet for work by labeling it ("Regional Sales," in this example) and then select it with the mouse. A window expands as in 2. The menu bar automatically changes to show LisaCalc operations. Everything is ready for work.



4. The Desktop Manager lets you work with different kinds *of documents simultaneously. Using only the mouse, in seconds you can cut material from one document and paste it into another.*



5. You can reorganize all stored information by rearranging the symbols with the mouse. When documents and folders are grouped the way you want them, press the mouse button and the Desktop Manager automatically does the rest.

The Mouse

This simple device is used for almost all operations. The keyboard is just for typing.

The mouse controls a pointer on the computer's screen. You move the mouse with one hand —on the screen, the pointer matches the mouse's movements.

Using the mouse, you can instinctively point to any image on the screen. To select any operation, just point to the image —symbols, menus, and so forth —and push the mouse button. Instantly, that operation begins.

The mouse and the natural movement of your own hand. They're all you need to control Lisa.

The Learning Advantage

Each of Lisa's applications has a menu bar at the top of the screen. Many items in the menu bars are common to all—File/Print, Edit, and Typestyle, for example—and always work the same way. That means learning to use one application teaches you how to proceed with another. And another and another.

The menu bar lets you actually learn to do useful work with an application in 20 to 30 minutes. In less time than it takes to learn a typical personal computer program, you can learn to use *all* of Lisa's business tools.

Integrated Software

Lisa coordinates its six business applications—LisaCalc, LisaList, LisaProject, LisaWrite, LisaGraph, and LisaDraw—in a way no personal computer can match. Lisa lets them share information. In seconds, you can examine data in all kinds of ways by transferring it from one document to another.

When you use LisaWrite to write an important cost analysis report, for example, you can also include any LisaCalc spreadsheet that proves your point—on the page you want, in the paragraph you want. Using LisaGraph, you can show the same figures in graph form, too, to make your point even clearer.

Lisa makes this kind of effective communicating practical because Lisa makes it radically simpler and faster to move information from document to document. Cutting financial data from a LisaCalc table, for example, and pasting it into a LisaWrite report can be done in seconds with the mouse.

No conventional personal computer can begin to approach such simplicity and power.

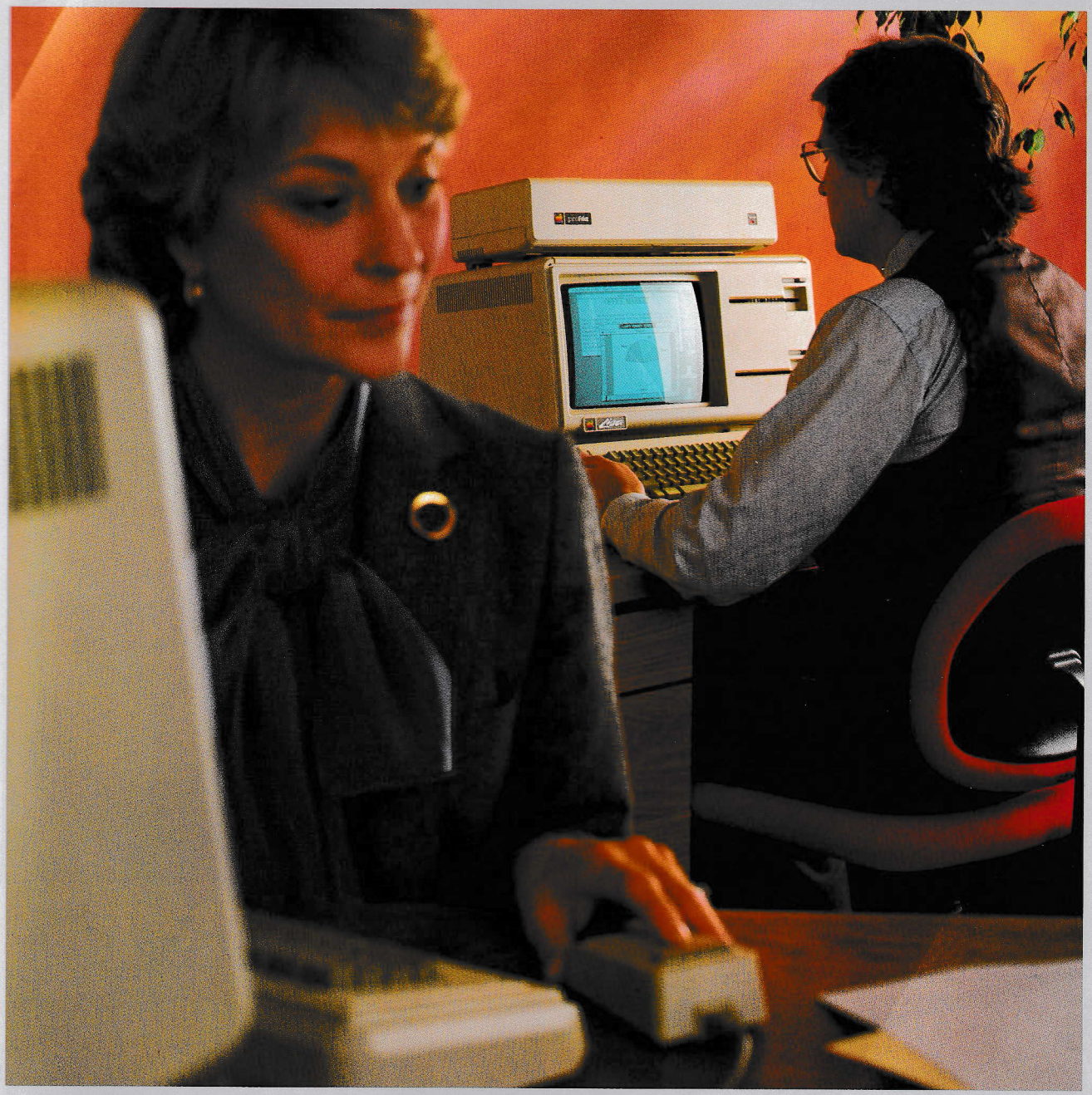
Lisa follows the way you work. And it follows the way your entire company works, too. In small firms, large firms, even rapidly growing firms, Lisa has the power and flexibility to go to work right now.

At your desk, the powerful Lisa system is remarkably easy to use. Yet it accommodates even the largest individual projects. You can add printers, more storage, and data communication, whenever it suits your plans. And if your plans are big, Lisa will expand into an advanced, cost-effective network. One that can cover your entire organization.

Lisa can follow your need for software, too. Six comprehensive applications handle the most important business functions —spreadsheet modeling, list management, project management, word processing, business graphics, and presentation graphics. And they're just the start. When you need to develop your own programs, Lisa's languages and advanced development tools help you put together all the software you need. And every day, more software and hardware are being developed to increase Lisa's power and flexibility.

Service is flexible, too. Lisa is backed by service and support that keep you running smoothly, day and night, no matter how your needs change.

All this makes Lisa perhaps the most comprehensive, cost-effective personal computer you can own—now, and years from now.



Measured by the standards of technology and the demands of business, the Lisa system is formidable. The main processor is among the most advanced available. Main memory holds a million characters. Built-in and plug-in disk drives store millions more. And the entire system can be expanded in extraordinary ways.

At the same time, Lisa's technical strength serves one straightforward business demand—the demand for an affordable, simpler, far more effective personal computer.

It's for business reasons, for example, that Lisa's main circuit boards and disk drives are plug-in modules. That makes repairs fast and inexpensive. Lisa also automatically dims the screen when your work is interrupted. That prolongs screen life. And when you turn the system off, it automatically stores your work before it shuts down. That protects your irreplaceable business information. When you next turn the system on, your work reappears *exactly* as you left it.

The Lisa system is high technology made simple. And that makes it effective.

The Screen
Lisa's 12-inch, bit-mapped, black-on-white screen displays 364 lines of 720 dots each. That lets you create extraordinary graphics and up to 132 columns and 40 rows of sharp, clear text.

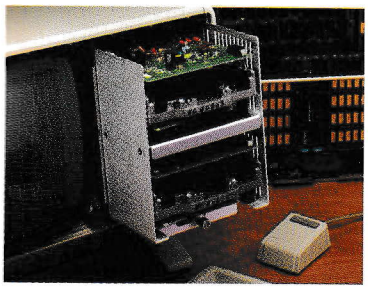
Most important, the screen makes it easy to produce office work that communicates. What you create on the screen—text in a wide range of sizes and typestyles, proportional spacing, even elaborate graphics—is precisely what you'll see in print.

Storage
All business applications and information files are instantly available because they're stored on ProFile,™ Apple's five-megabyte high-speed hard disk. Two built-in 5¼-inch double-sided floppy disk drives handle an additional 1.7 megabytes of data and let you quickly copy new information into ProFile, make backup copies of files, perform automatic system tests, and use additional languages and programs.

The Keyboard
It's standard and simple—the mouse replaces the confusing special function keys that crowd other computer keyboards. Lisa's keyboard also has a numeric keypad and many advanced ergonomic features.

Powerful Plug-ins
At the back of the system are three outlets for plugging in printers, modems (including auto-dial/auto-answer), and hard-disk storage. There's also a composite video jack for special equipment like external monitors.

Three internal expansion slots let you add specialized equipment. They'll also let you plug Lisa into AppleNet,™ the cost-effective Apple network.



Simple Service
Inside the system, components are organized into simple plug-in modules—five basic circuit boards and two disk drives. Using Lisa's self-diagnostics software, defective modules can be identified, unplugged, and replaced in seconds.

System Growth
A Lisa system grows to fill increasing demands—including those of large organizations. Lisa is designed to grow into a complete network of systems sharing storage, printing, and critical information throughout your entire company.

Advanced Design

Lisa is self-contained, has no fan, and uses less desk space than most conventional personal computers. The mouse and keyboard are both separate from the console, so you can position them comfortably. The mouse controls the entire system. The keyboard is just for typing.

The system's 32/16-bit central processor (the MC68000) has the capacity to handle even large office projects fast. Three additional processors—for the keyboard and disk drives—make the whole system extremely responsive.

Lisa's one-megabyte main memory easily accommodates even the heaviest work loads—major reports, exhaustive lists, huge spreadsheet tasks, and more.

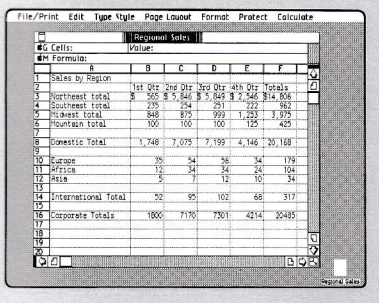
When you do office work, you do several things at once. Lisa is made to do the same. Its multitasking design lets you print a report, for example, while doing other important work on the screen.

Lisa's business applications are prodigious office tools that streamline all your work—from forecasting and project management to report writing and presentations.

But Lisa's software does much more. Unlike conventional programs, Lisa's applications work harder by working together—information can be cut from one and pasted directly into another. For example, you can instantly clarify complex LisaCalc data by pasting it into LisaGraph. You can also insert the data into reports, right where you need it. The possibilities are endless. Cutting and pasting are done simply, in seconds, using only the mouse.

All of Lisa's applications work the same way. Learn one program and you'll learn the next even faster.

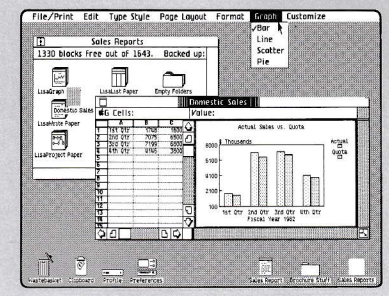
Lisa's integrated business tools make a whole that's greater than the sum of its parts. That gives you a business advantage that no conventional personal computer offers.


File/Print Edit Type Style Page Layout Format Protect Calculate
Regional Sales
Cells:
Value:
Formula:
Sales by Region
1st Qtr 2nd Qtr 3rd Qtr 4th Qtr Totals
Northeast total $ 565 $ 5,846 $ 5,849 $ 2,546 $14,806
Southeast total 235 254 251 222 962
Midwest total 848 875 999 1,253 3,975
Mountain total 100 100 100 125 425
Domestic Total 1,748 7,075 7,199 4,146 20,168
Europe 35 54 56 34 179
Africa 12 34 34 24 104
Asia 5 7 12 10 34
International Total 52 95 102 68 317
Corporate Totals 1800 7170 7301 4214 20485
Regional Sales

LisaCalc

From budgets to forecasts to technical models, LisaCalc helps you with all kinds of calculations and analyses. Put your numbers and formulas in the displayed columns-and-rows spreadsheet and LisaCalc does the rest. You can calculate—and instantly recalculate—intricate problems to quickly find answers you need.

LisaCalc's spreadsheet format is big enough to handle the largest projects—255 columns by 255 rows. At the same time, LisaCalc calculates to 15 digits to provide the most precise data. Any column can display data in 10 different formats and be quickly expanded, contracted, and repositioned.

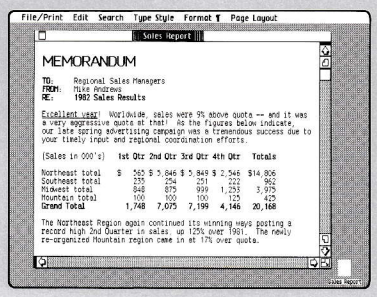


LisaGraph

LisaGraph turns complex data into easy-to-understand graphs.

Unlike other graphics programs, LisaGraph lets you see both graph and data at the same time. On the screen, a spreadsheet is displayed next to the graph. When you enter numbers in the spreadsheet, LisaGraph plots them automatically. LisaGraph makes five kinds of graphs—bar, line, mixed bar/line, pie, and scatter. It also plots up to seven data sets on a single graph.

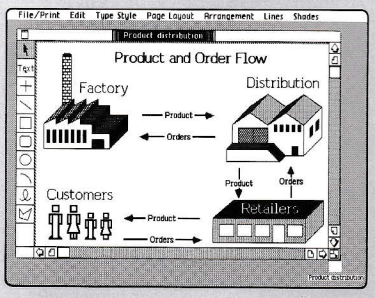
LisaGraph automatically plots whole blocks of data when you cut and paste numbers from LisaCalc. In turn, graphs can be cut and pasted into LisaDraw for extensive graphic customization.


File/Print Edit Search Type Style Format ¶ Page Layout
Sales Report
MEMORANDUM
TO: Regional Sales Managers
FROM: Mike Andrews
RE: 1982 Sales Results
Excellent year! Worldwide, sales were 9% above quota -- and it was a very aggressive quota at that! As the figures below indicate, our late spring advertising campaign was a tremendous success due to your timely input and regional coordination efforts.
(Sales in 000's) 1st Qtr 2nd Qtr 3rd Qtr 4th Qtr Totals
Northeast total $ 565 $ 5,846 $ 5,849 $ 2,546 $14,806
Southeast total 235 254 251 222 962
Midwest total 848 875 999 1,253 3,975
Mountain total 100 100 100 125 425
Grand Total 1,748 7,075 7,199 4,146 20,168
The Northeast Region again continued its winning ways posting a record high 2nd Quarter in sales, up 125% over 1981. The newly re-organized Mountain region came in at 17% over quota.
Sales Report

LisaWrite

LisaWrite gives you responsive, personal word processing for everything from the shortest memos to the longest reports. With the preview feature, you can review final line spacing, page breaks, headers and footers, and more before you print a document. Perfect final drafts are routine because what you see on the screen is exactly what you get on paper.

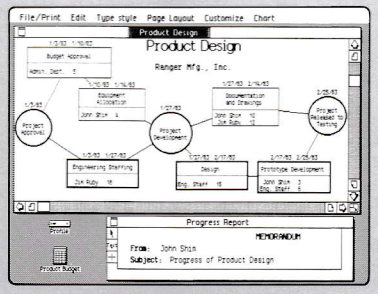
Editing is extremely fast and easy and can be done with the mouse or the keyboard. Special features are easy to use, too. Using the mouse, you can create bold, italic, and underlined text in a wide variety of sizes and typestyles.



LisaDraw

With the right pictures, reports and presentations become shorter, clearer, easier to prepare, and far easier to understand. LisaDraw helps you do all that. And it's easier to use than a pencil and paper.

LisaDraw actually lets you draw perfect flow charts, technical diagrams, designs, maps—almost any illustration your work requires. LisaDraw lets you use the mouse to assemble lines, rectangles, circles, and much more, in any size and combination. You can even draw freehand.

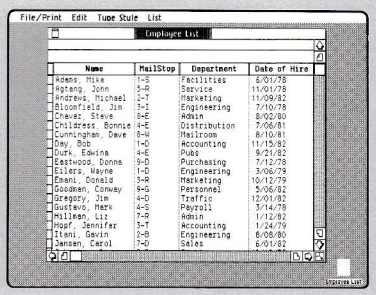


LisaProject

At last there's a tool that helps you manage complex project schedules and ask important "what if" questions about time and resources.

Modeled on the PERT project management technique, LisaProject automatically keeps track of the complicated interdependencies within large projects.

LisaProject lets you use the mouse to chart a project's critical path. When you change deadlines and resources, LisaProject automatically recalculates the entire project. You see immediately what effects those changes will make.


File/Print Edit Type Style List
Employee List
Name MailStop Department Date of Hire
Adams, Mike 1-S Facilities 6/01/78
Agtang, John 5-R Service 11/01/78
Andrews, Michael 1-T Marketing 11/09/82
Bloomfield, Jim 3-I Engineering 7/10/78
Chavez, Steve 8-E Admin 8/02/80
Childress, Bonnie 4-E Distribution 7/06/81
Cunningham, Dave 8-H Mailroom 8/10/81
Day, Bob 1-O Accounting 11/15/82
Durk, Edwina 4-E Pubs 9/21/82
Eastwood, Donna 9-D Purchasing 7/12/78
Eilers, Wayne 1-O Engineering 3/06/79
Emani, Donald 3-R Marketing 10/12/79
Goodman, Conway 9-G Personnel 5/06/82
Gregory, Jim 4-O Traffic 12/01/82
Gustavo, Mark 4-S Payroll 3/14/78
Millman, Liz 7-R Admin 1/12/82
Mogf, Jennifer 3-T Accounting 1/24/79
Itani, Gavin 2-B Engineering 8/08/80
Jansen, Carol 7-D Sales 6/01/82
Employee List

LisaList

Client lists, competitive product information, job candidate data, and other records are packed with useful information—if you can extract it. With LisaList, you can.

Using LisaList, you can instantly search and sort any list for the information you need. LisaList makes it simple, too, because it's all done with the mouse. Columns can be added or deleted, expanded or narrowed, repositioned and even displayed or hidden at any time without re-entering data.

What a single Lisa system does is impressive. But what many Lisas can do together is nothing short of amazing.

Your own Lisa system gives you powerful, spontaneous help for every personal office task, from writing brief memos to making large financial models.

The same system can bring massive amounts of valuable information to your desk by giving you access to mainframe data libraries almost anywhere. Lisa makes it easy, too. As always, you use the mouse.

And when your system works with other Lisa systems, the benefits expand dramatically. Lisa systems can be linked together with AppleNet, the Apple network. Immediately, an entire department can work together as never before, spontaneously sharing and combining information in powerful new ways. When several departments are linked to several more departments, the effect is multiplied. The larger the company, the greater the effect.

The Personal Lisa

Lisa's effectiveness starts as soon as you plug it in. The system performs all the powerful functions you need with stunning simplicity. Surprisingly, it's priced like many conventional personal computers. Even if your department's budget is limited, you can put Lisa to work in your office now.

More Storage

Adding even more storage is simple—just plug in more ProFiles. You can attach several, adding them one at a time as you need them.

Languages

Lisa runs powerful versions of Pascal, BASIC, and COBOL, so you can run as well as write business programs in those languages. Using the Lisa Applications Development Tool Kit, programmers will be able to create Lisa-style programs and extend Lisa's powers even further.

Printer Breakthrough

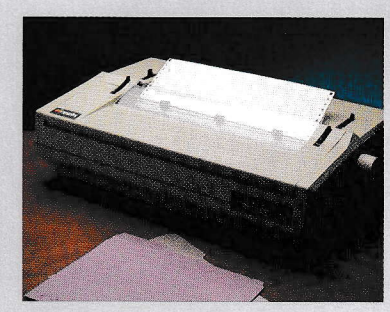
With its dot matrix and daisy wheel printers, Lisa produces printed materials that no similarly priced system can begin to match.

Lisa's dot matrix printer reproduces everything—manuscripts, charts, graphic designs—exactly as you see it on the screen. Its sharpness matches that of printers costing much more.

In high-resolution mode (160 x 144 dots per inch), this printer does presentation-quality work, with proportional spacing, bold, italic, and underlined type in 11 different sizes and styles. Draft mode prints lists and reports at 120 characters per second. All work can be done in vertical or horizontal formats.

Lisa's daisy wheel printer does more, too. Like the dot matrix printer, it produces exactly what you see on the screen—including graphics that are far beyond the ability of any other daisy wheel printer. New multipitch and multifont printwheels, plus a unique wheel that generates 168 characters, give you more printing convenience and flexibility because they last longer and do more than conventional wheels. Lisa's daisy wheel printer prints 45 characters per second.

Both printers are ready to run when they're plugged in. Both handle cut sheet and continuous form paper. And both are simple to configure, using the mouse.



Data Communication

Lisa can share information with a broad range of sources. Through LisaTerminal, Lisa's asynchronous communications software, Lisa communicates with commercial databases, such as Dow Jones News Retrieval Service, The Source, and Compuserve, and with other microcomputers.

With characteristic simplicity, Lisa also acts as a terminal for corporate mainframes, central minicomputers, or virtually any other large computer system.

Using the LisaTerminal program, Lisa does the work of VT100, VT52, or TTY terminals. LisaTerminal works simply, like all Lisa applications. Use the mouse to point to operations on the familiar pull-down menus. If you want, you can copy-and-paste mainframe information into LisaWrite and vice versa.

LisaTerminal will also connect to the Apple Cluster Controller to let you access IBM computers using 3270BSC or 3270SNA protocols. Other communication products will soon follow.

AppleNet

Any Lisa system can become part of a powerful Lisa network through AppleNet.

AppleNet, the Apple network now in development, will link together Lisas and other Apple systems. With AppleNet, the right information gets to the right people instantly. AppleNet can start small and, as the need arises, expand to cover an entire corporation. And AppleNet is designed to be flexible, fast, inexpensive, easy to install, and reliable.

More to Come

New software and hardware will continually expand the Lisa system's effectiveness.

Apple has planned an entire family of system, data communication, and network devices. Other developers are already at work on Lisa's future as well. The advanced Lisa Applications Development Tool Kit, created to make extensive software development easy, is also on the way.

Support and service for Lisa are as flexible and comprehensive as the system itself.

Lisa instruction, for example, is efficient in organizations of any size. With the system's innovative self-teaching materials, a single user can put Lisa to work in less than 30 minutes. Conventional self-instruction takes about ten times as long. And if whole departments need to learn en masse, Apple can provide complete training programs—and even help your business develop its own specialized programs.

Service for Lisa is just as broad. You can get fast, economical service for a single system or a corporation's entire network. You can even set up your own service department. Apple will provide all the training and supplies.

In a word, no matter how you put Lisa to work in your company, you'll have support and service that work the way you want.

Learning Time— Yet Another Breakthrough

Lisa's training materials are as simple and intuitive to use as Lisa itself. By loading a single training disk into the system, you try Lisa immediately and, at the same time, learn to use the Desktop Manager. Then you start learning business applications. Each application's brief pictorial guide, called "Getting Started," teaches you to do useful work with that application in 20 to 30 minutes. Less than a half-hour. There's nothing like it for conventional computers.

When you want additional instruction, other self-teaching materials provide more information and quick, clear answers to a host of specific questions.

Corporate Training

Apple can give self-paced, self-testing courses to an entire organization. Or Apple can help your company set up its own specialized training program.

Carry-in Dealer Service

You can get fast, low-cost service for any Lisa system by simply taking it to an authorized Lisa dealer. Usually, your dealer services your system while you wait.

Service and Support by the Numbers

When you need help, it's available through the toll-free Lisa phone number.

Call when you need answers about any part of the system. You'll reach a Lisa specialist immediately.

Call when you need on-site repairs. Complete Lisa service can be there in four hours or less. Any hour, seven days a week, if need be.

Call when you want to stop calling altogether—Apple can help your company set up its own Lisa service and support department.

The Lisa System. You Should Know More.

It's the only personal computer that works the way you do. To learn how you can put Lisa to work in your office, call Apple at 800-662-9238. We'll give you the phone number of the national accounts office or authorized Lisa dealer in your area.

Specifications

Display:
- 12-inch screen (measured diagonally).
- Full-screen bit-mapped display:
  - 364 lines by 720 dots.
  - up to 45 lines of 144 characters.
- 60 Hz refresh rate.
- 64 levels of contrast under software control.
- Glare-reducing screen (enhances contrast).

Keyboard:
- Detached, IBM Selectric® type with N-key rollover.
- Sculptured keytops (textured, non-slip, non-glare).
- Numeric keypad with raised dot on 5 key for quick positioning.
- Full ASCII character set with up to 76 keys.
- All keys programmable for special characters or functions.
- Smart interface with control-oriented processor.

Mouse:
- Extremely fast, intuitive cursor positioning.
- Works well on any surface.
- Simple one-button design eliminates confusion and the need to learn commands.

Disk storage:
- 860K bytes (per drive) formatted storage (1.4 megabytes unformatted).
- 62.5 tracks (10,000 bits) per inch.
- Automatic head loading.
- Automatic disk eject under software control.
- Smart interface with 6504 processor.

Main processor:
- MC68000 32/16-bit CPU:
  - 32-bit internal architecture.
  - 16-bit external data path.
  - 7 levels of interrupts.

Real-time clock:
- Software on-off control.
- Interval and event timing.

Main memory:
- 16K bytes of startup ROM.
- Up to one megabyte of RAM.
- Parity error detection.

Memory management:
- Permits operating system to relocate segments in memory.
- Provides access controls for blocks of memory.
- Segmentation into 128 variable-length blocks dynamically controlled by memory map table.

Communications interface:
- Two serial ports:
  - Intelligent controller:
    - full-function, programmable (asynch, bisynch, SDLC, HDLC).
- RS-232C with half- or full-duplex channels.
- Full modem control and ring indicator on one channel.
- Software-programmable Baud Rates.
- One parallel port:
  - 6522 interface adapter.
  - 8-bit bidirectional with handshake control.

Audio output:
- Built-in speaker with software-controllable tone generator.

Expansion board slots:
- Three slots.
- Zero-insertion-force connectors.
- Direct connection to system bus.
- DMA capability.
- Memory-mapped I/O.
- Vector interrupt capability.
- Direct connection of power supply:
  - digital ground.
  - +5 V, +12 V, −12 V, −5 V (100 mA max).
  - allows up to 15 W total (maximum rating) for all three cards.
  - +5 V standby (at 50 mA) per board.

Weight and dimensions:
- Computer console:
  - Weight: 48 lb. (22 kg).
  - Height: 13.8 in. (350 mm).
  - Width: 18.7 in. (475 mm).
  - Depth: 15.2 in. (388 mm) [16 in. (403 mm) with keyboard under front].
- Keyboard:
  - Weight: 4 lb. (1.8 kg).
  - Height: 2.7 in. (68 mm).
  - Width: 18.7 in. (475 mm).
  - Depth: 6.5 in. (165 mm).

Power requirements:
- 115 or 230 V. AC.
- 48 to 68 Hz.
- 270 W (maximum).

Environmental requirements:
- Ambient temperature: 40°–108° F (5°–42° C).
- Relative humidity: 15–80%, noncondensing.

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